

Florida: Tallahassee - WHP Partnership Increases Scope of Protection in Tallahassee

Background

The local economy in Tallahassee, Florida (the state's capital), is largely based on providing services necessary to sustain state agencies, two universities, and one community college. There is relatively little heavy industry; instead, the area's major businesses include automotive facilities, dry cleaners, and a variety of light industries. Tallahassee operates 29 wells tapping a karst aquifer, part of the Floridan Aquifer System. The city supplies its customers with over 25 million gallons of water per day. The quality of the ground water is good, and generally disinfection and fluoridation are the only treatments applied prior to distribution. However, the city's water quality monitoring program detected TCE (tetrachloroethylene) contamination in seven wells in the older part of the city. The source of the TCE was apparently solvents that degreased machine parts, disposed of by dry cleaners and businesses in the area. Although the practices that caused the problem are illegal now, TCE has infiltrated the aquifer over the years. Large capital and remediation expenses for the municipal water system to extract the solvents and provide ongoing monitoring to ensure a safe water supply for customers have resulted.

The discovery of TCE contamination prompted the City of Tallahassee to partner with Leon County in 1992 to develop a county-wide Aquifer/Wellhead Protection Ordinance and Aquifer Protection Program. The goal of the partnership was to offset a standard for aquifer protection in the region beyond the municipal limits of Tallahassee, in order to educate and assist business owners with chemical and waste issues, and to educate citizens in prevention of ground water contamination.

Priority Contamination Threat

Trichloroethylene (TCE) is the priority contamination threat.

Local Involvement and Developing the Protection Plan

The Aquifer/Wellhead Protection Ordinance was primarily developed by Tallahassee and Leon County officials, the Florida State Department of Environmental Protection (DEP), Leon County Health Department, Northwest Florida Water Management District, and the U.S. Geological Survey (USGS). Staff from both the city and the county worked hand in hand with a technical advisory committee of local scientists and decision makers to create the ordinance. Much of the ordinance's evolution took place at public workshops. Citizens, as well as concerned organizations (e.g., the local Sierra Club) were encouraged to offer input and ask questions at these events.

In the mid-1990s, the public was actively recruited for an outreach and assessment effort aimed at publicizing the activities of the Program and promoting aquifer/source water protection (the "Model Approach" program). For example, a large organizational meeting was held to initiate the source water potential contaminant source inventories and to provide training. A local chapter of RSVP (Retired and Senior Volunteer Program) conducted a pilot project to inventory potential contaminant sources (PCSs) within 500 feet of several wellheads. This project was funded through the U.S. EPA in the mid-

1990s. Such community participation proved to be a positive experience for the Aquifer/Wellhead Protection Program, and similar PCS inventory efforts have been implemented over subsequent years utilizing city, county, and state funds. This activity has given the region a head start on meeting SDWA source water assessment requirements. The Tallahassee Water Utility frequently distributes informational brochures on relevant topics [e.g., best management practices (BMPs)] to utility customers. Homeowners are encouraged by the Aquifer Protection Program to take certain actions to prevent ground water pollution, including recycling of used oil, proper use and disposal of household chemicals, and protection of private wells.

Management Measures

The Tallahassee and Leon County Aquifer/Wellhead Protection Ordinance provides legal restrictions aimed at preventing contamination of the aquifer. The City of Tallahassee's Aquifer Protection Coordinator is responsible for implementing Leon County's Aquifer/Wellhead Protection Ordinance as well as other components of the Aquifer Protection Program. In addition, city staff perform frequent onsite inspections of local businesses, such as auto shops and printers, to ensure that they are handling regulated substances properly. These inspectors are also subcontracted by Leon County to find out if industries are storing wastes improperly on their property instead of disposing of them at appropriate facilities. The Aquifer Protection Program establishes requirements for local businesses which include the following:

- Registration: businesses or facilities that manufacture, store, or use regulated substances in quantities greater than five gallons or 50 pounds must register with the City's Aquifer Protection Section and be subject to inspection;
- Containment: facilities must use trays, curbing, absorbents, or other containment systems around all containers of regulated substances;
- Visual inspections: containers holding regulated substances must be inspected by facility personnel on a weekly basis;
- Reporting spills: any discharge or leak of regulated substances to the environment above established thresholds must be reported to the Aquifer Protection Section;
- Proper disposal of waste: regulated facilities must be able to show that a Certified Waste Hauler is engaged to dispose of regulated wastes in an environmentally acceptable manner and also keep inventory records to demonstrate that used or waste products are being disposed of properly;
- Discharge of regulated substances: septic tanks, drain fields, floor drains, grease traps, and oil/water separators must be constructed in a manner to prevent infiltration of regulated substances to soil, ground water, or surface water;
- Regulation of wells: heat exchange wells, drainage and injection wells, abandoning of unused wells, and geotechnical borings are subject to regulation; and
- Reporting of sinkholes: newly formed sinkholes must be reported to the Aquifer Protection Section before backfilling with uncontaminated material of lower permeability than the surrounding soil.

These regulated activities, rather than imposing land use prohibitions or restrictions, rely on materials management, BMPs implementation, operator education, and limited engineering controls (e.g., secondary containment).

Contingency Planning

The wellhead protection program does not specify any certain contingency plan because Regional Planning Councils in the area have all developed plans to follow in the event of an emergency. Contingency plans have also been developed as a requirement of federal NPDES policy.

Measuring Program Effectiveness

Aggressive water quality monitoring is a key assessment tool for Tallahassee. The effectiveness of drinking water protection measures can be assessed directly and quantitatively, using federal and state guidelines. Monitoring wells are located in sensitive locations (e.g., a wastewater sprayfield) throughout the county and are tested frequently. The number of water quality analyses conducted each year by the Tallahassee Water Quality Division, typically over 110,000, attests to the important role of water quality monitoring in protecting water supplies.

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